

Early stages of *Euthalia byakko* from central LaosHiroyuki WAKAHARA¹⁾, Tatsuo MIYAMOTO²⁾ and Masayuki NIMURA³⁾¹⁾ Sybun Huan -14 Sykhai, P. O. Box 6217, Vientiane, the Lao P. D. R.²⁾ 2-4-10, Futaba, Utsunomiya, Tochigi, 321-0164 Japan³⁾ Kokoro Medical and Welfare Professional College, 11-8 Kamizenza, Nagasaki, 850-0048 Japan

Abstract We collected two second instar larvae of *Euthalia byakko* in the suburbs of Xieng Khouang Province in central Laos in January 2009 and were the first to succeed in getting these larvae to emerge by rearing. As these larvae were collected on a leaf surface of *Lithocarpus (Pasania)* sp. along a central vein, we bred them using a leaf of *Lithocarpus (Pasania)* *edulis* as a substitute food plant and succeeded in getting adult female and male individuals to emerge.

Key words central Laos, early stages, *Euthalia byakko*, *Lithocarpus (Pasania)*, Nymphalidae.

Introduction

Euthalia byakko Uehara & Yoshida, 1995 (Lepidoptera, Nymphalidae) was first collected in Oudomxay (northern Laos) by Uehara & Yoshida, and reported by them in 1995 (Uehara and Yoshida, 1995). Since then, *E. byakko* has also been collected in central Laos, e.g. Laksao (Osada *et al.*, 1999). This shows that this butterfly inhabits central Laos as well as the northern part.

However, the early stages of this species, egg, larva and pupa, have not so far been discovered.

In January 2009, we collected four early age larvae of *Euthalia* sp. in Xieng Khouang Province in central Laos. One of the present authors (MT) reared it using a leaf of *Lithocarpus edulis* as a substitute food plant and succeeded in getting two adult individuals to emerge. As a result, we found that the larva that we collected was the second instar larva of *Euthalia byakko*.

In this paper, we report on the environment around the collecting location and the early larval stages.

Collecting location, date and situation

We collected two early-age larvae of the *Euthalia* family in the forest 25 km east of Phon Savan (Xieng Khouang Province, altitude: approximately 1200 m) on a leaf surface of *Lithocarpus (Pasania)* sp. on 8th January 2009. This forest is a laurel forest mainly comprising *Lithocarpus (Pasania)* sp. (Fig. 1).

When we collected these larvae, they were resting on a leaf surface of *Lithocarpus (Pasania)* sp. along the central vein (Fig. 2). Larvae resembling *Euthalia anosia* were present on the same tree, but they were in every case found in a remote position on the central veins on the under surface of leaves.

We report below on the rearing of two of them which we collected first. Because of the small number collected, we concentrated on the rearing and show photographs of only the second and last (6th) instar. We used a leaf of *Lithocarpus (Pasania)* *edulis* as a substitute food plant.

Result and Discussion**The second instar larva (Fig. 2)**

The larva at this stage has 10 pairs of needle hairs of around 3–5 mm in length (one pair on each segment, and each bearing multiple subsidiary needles, similar to other *Euthalia* species (Fukuda, 2000)). At this stage, there was a feeding trace of this larva in the distal end of a leaf. The larva fed on the whole leaf or half of it, except for the central vein and commonly rested on the central vein of the leaf surface.

The last (6th) instar larva (Fig. 3)

A pink line runs along the midline of the dorsum portion and many subsidiary needles grow from each main needle, as in the second instar. This larva also remained still on a central vein. The larval full length was approximately 57 mm (not including the needle spines). The morphological characteristics of the last instar resembles those of *Euthalia (Mahaldia) formosana* (Fruhstorfer). The last instar of *E. formosana* also often rested on a central vein of the leaf surface as in those of *E. byakko* (Igarashi and Fukuda, 1997).

Pupa (Fig. 4)

The pupal body color is dark green generally, and the projections are golden. The length is approximately 34 mm. The external morphology of the pupa is similar to that of *Euthalia (Mahaldia) formosana* (Fruhstorfer)

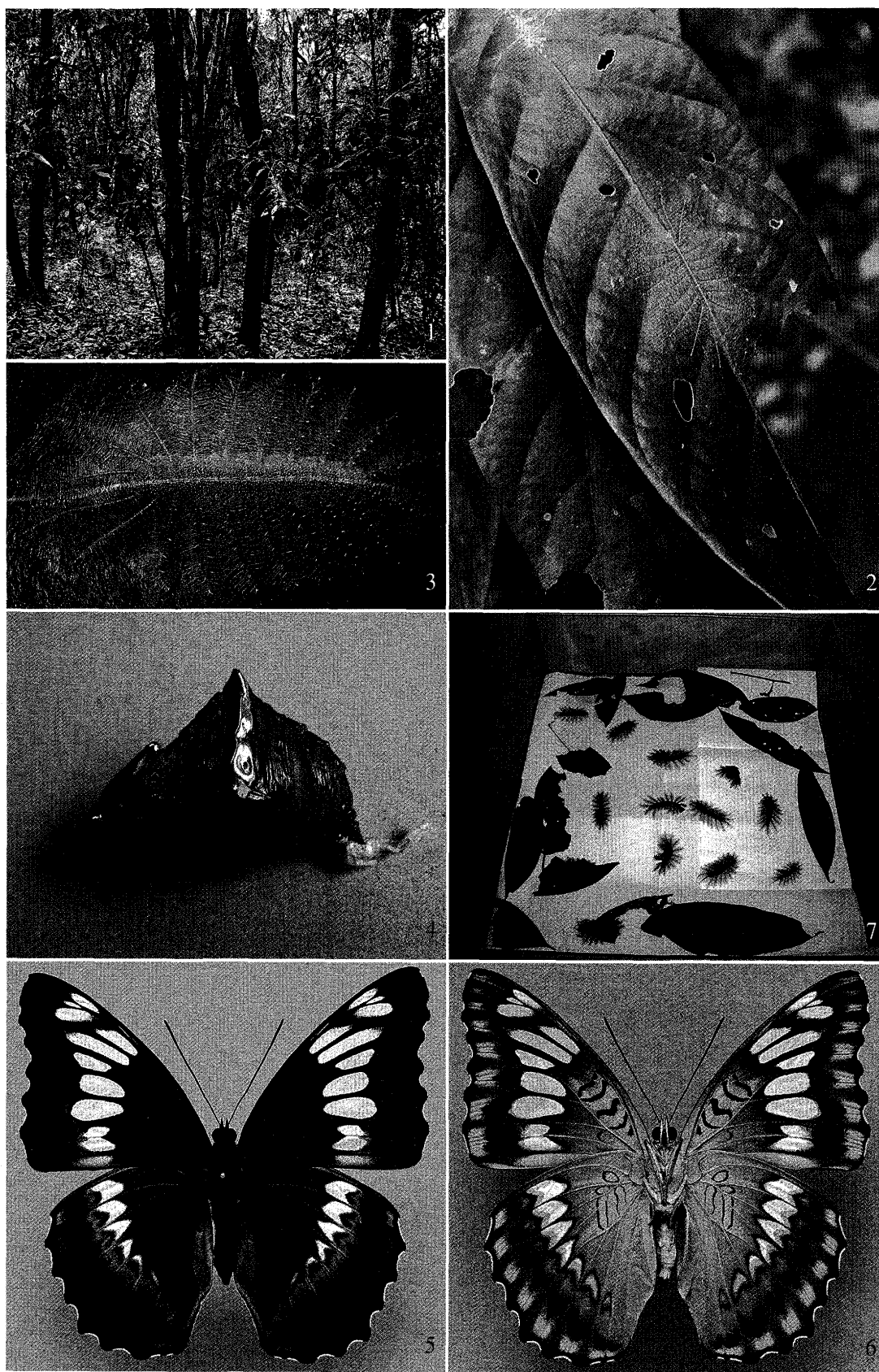


Fig. 1. Food plant *Lithocarpus (Pasania)* sp. Jun. 2009 (WH). Fig. 2. Second instar larva and its feeding trace. Jun. 2009 (NM). Fig. 3. Last (6th) instar larva in rearing condition. Mar. 2009 (MT). Fig. 4. Pupa (Same individual as fig. 3). April. 2009 (MT). Fig. 5. Adult, female (Same individual as fig. 3 and 4), upper side. (MT) The forewings are 63 mm in length. Fig. 6. *Ditto*, under side. (MT). Fig. 7. Mass rearing. Mar. 2009 (WH).

(Igarashi and Fukuda, 1997).

Adult (Figs 5, 6)

The adult individuals that emerged were one male and one female, of which forewings were 53 mm (male) and 63 mm (female; Figs 5, 6) in length, respectively. The male forewings length is almost exactly the same as that of the holotype specimen (52 mm; Uehara and Yoshida, 1995; Yokochi, 2010). The wing markings of the individuals were also quite similar to those of the holotype specimen (Uehara and Yoshida, 1995; Yokochi, 2010).

Addendum

In March of the same year, one of the authors (WH) collected dozens of the same larvae in this location and succeeded in getting most of the larvae to emerge by rearing (Fig. 7). The details will be given in a future report.

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摘 要

ラオス産ビャッコイナズマの幼生期 (若原弘之・宮本龍夫・二村正之)

筆者らは2009年1月に中部ラオスのシェンクアン県にて2個体のビャッコイナズマ *Euthalia byakko* の2齢幼虫を採集した。採集時、これらの幼虫は例外なく食樹である *Lithocarpus* (*Pasania*) 属の葉表面の主脈上に静止していた。

筆者らはこれらの幼虫を同属のマテバシイ *Lithocarpus* (*Pasania*) *edulis* の成葉により飼育し、成虫へ羽化させることに成功した。羽化個体は雄雌各1個体で、そのうち雄の前翅長は53 mmであり、翅型、斑紋とともにホロタイプ標本 (52 mm; Uehara and Yoshida, 1995, Yokochi, 2010) とほぼ一致した。また雌の前翅長は63 mmで、翅型、斑紋とともに Osada ら, 1999 に掲載された中部ラオスの Laksao における採集標本 (前翅長60 mm) とほぼ一致した。終齢幼虫や蛹の大きさや形、体色等は五十嵐, 福田 (1997) に掲載された タカサゴイチモンジ *Euthalia* (*Mahaldia*) *formosana* (Fruhstorfer) のそれに類似し、終齢幼虫が食樹の葉上中央部の中肋上で静止する点も本種と共通であった。

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